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John Lawrence Bowers

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EXAMINER

RIVELL, JOHN A

ART UNIT

PAPER NUMBER

3753

NOTIFICATION DATE

DELIVERY MODE

01/30/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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## Office Action Summary

Application No.

09/986,346

Applicant(s)

BOWERS, JOHN LAWRENCE

Examiner

John Rivell

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06/27/07 (amendment).
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16, 17, 19-25, 41, 43-47, 49-54, 64, 66-70, 72-96, 100-104, 108-120 and 122-129 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

Continuation of Disposition of Claims: Claims pending in the application are 16,17,19-25,41,43-47,49-54,64,66-70,72-96,100-104,108-120 and 122-129.

### **DETAILED ACTION**

Applicant's arguments filed June 27, 2007 have been fully considered but they are not persuasive.

The Examiner apologizes for the exceptional lengthy delay in the issuance of this Office action.

By amendments filed in this application, claims 1-15, 18, 26-40, 42, 48, 55-63, 65, 71, 97-99, 105-107 and 121 have been canceled. Claims 16, 17, 19-25, 41, 43-47, 49-54, 64, 66-70, 72-96, 100-104, 108-120 and newly added claims 122-129 are pending.

### ***Oath/Declaration***

The reissue oath/declaration filed with this application is defective because the error which is relied upon to support the reissue application is not an error upon which a reissue can be based. See 37 CFR 1.175(a)(1) and MPEP § 1414.

The recent supplemental declarations filed May 23, 2005, June 21, 2005 and November 4, 2005 all state that:

“At least one error upon which reissue is based is (that) in claims 1 and 10 by reciting that both ‘said root end of the cantilevered flexible flap and the respective sealing surface that contacts the cantilevered flexible flap at said root end have a fixed curvature in a direction transverse to said longitudinal axis”

as a basis for the alleged error in this reissue application. This cannot be considered as a proper basis for a reissue application as the very limitations that are to be removed from the claims of this application are what were added by applicant during prosecution of the original patent in order to overcome an applied rejection.

For example, during prosecution of the original patent application (SN 08/686839) which matured into the Patent under Reissue here, prosecution of the application proceeded to Final rejection on April 29, 1997. In response thereto, applicant submitted by facsimile dated May 20, 1997, a proposed Draft of then claim 12, which did not include the above noted language. Two days later, on May 22, 1997 a second facsimile of Draft claim 12 was submitted that did include the above noted language. This second Draft apparently was agreed upon. In a formal amendment dated June 12, 1997 in an effort to overcome prior art applied in the final rejection dated April 29, 1997, and further modifying the first Draft version of claim 12, applicant specifically amended then claim 12 by the specific addition of (added material indicated by underlining) the following:

"said root end of the cantilevered flexible flap and the respective sealing surface that contacts the cantilevered flexible flap at its said root end are curved in a direction transverse of said longitudinal axis, said transverse curvature biases the flap and maintains it substantially in contact..."

which includes the language applicant now requests to remove. On page 6 of the accompanying remarks concerning the rejection of claim 12 and how as amended the claim does not read on the applied reference applicant states:

"...independent claims 12 and 13 have been drafted to more fully define the form of, and relationship between, the valve flap and the cooperating valve seat."

After further changes to claim 12, directed to language not germane to the concept of having the sealing surface curved in the transverse direction, claim 12 matured into claim 1 of the Patent sought to be Reissued. Thus the limitations added to

the claims and/or argued about to make the claim patentable over the applied prior art effectively "generates" the surrender of the claimed subject matter.

To now allege in the reissue declaration that this claimed subject matter is an "error" under reissue is an improper attempt at recapture of previously surrendered subject matter. Accordingly, the oath is defective because the error which is relied upon to support the reissue application is not an error upon which a reissue can be based.

### ***Response to Argument***

In response to the above applicant argues that the Examiners imposition of a *per se* rule related to the removal of claim limitations that were inserted during prosecution has been rejected by the Board of Patent Appeals and Interferences citing *Ex parte Eggert*, 67 USPQ2d 1713, 1717 (BPAI 2003).

It is understood that *Eggert* allows in Reissue applications for the broadening of claim language germane to the limitations that were added/argued during prosecution of the Patent application to overcome an art rejection. *Eggert* does not permit the complete removal of such language. In the claims listed below subject to rejection under Recapture, the claims eliminate language germane to the allowed concept concerning the transverse curvature of the sealing surface and instead propose language relating to a transverse curvature of the valve element. As disclosed in the original Patent, an embodiment of the valve element itself may be originally constructed to include the transverse curvature such that the transverse curvature is not created by the mounting the of valve element to the valve element to the valve seat. Failure to submit claims to an essentially non-elected embodiment of the invention in later filed

applications is not an "error" causing a patent granted on examined claims to be partially inoperative by reason of claiming less than the applicant had a right to claim.

Claims 16, 17, 19-25, 41, 43-47, 49-54, 64, 66-70, 72-96, 100-104, 108-120 and 122- 129 are rejected as being based upon a defective reissue declaration under 35 U.S.C. 251 as set forth above. See 37 CFR 1.175.

The nature of the defect(s) in the declaration is set forth in the discussion above in this Office action.

### ***Recapture***

Claims 41, 43, 46, 64, 66 and 69 are rejected under 35 U.S.C. 251 as being an improper recapture of broadened claimed subject matter surrendered in the application for the patent upon which the present reissue is based. See *Pannu v. Storz Instruments Inc.*, 258 F.3d 1366, 59 USPQ2d 1597 (Fed. Cir. 2001); *Hester Industries, Inc. v. Stein, Inc.*, 142 F.3d 1472, 46 USPQ2d 1641 (Fed. Cir. 1998); *In re Clement*, 131 F.3d 1464, 45 USPQ2d 1161 (Fed. Cir. 1997); *Ball Corp. v. United States*, 729 F.2d 1429, 1436, 221 USPQ 289, 295 (Fed. Cir. 1984). A broadening aspect is present in the reissue which was not present in the application for patent. The record of the application for the patent shows that the broadening aspect (in the reissue) relates to claim subject matter that applicant previously surrendered during the prosecution of the application. Accordingly, the narrow scope of the claims in the patent was not an error within the meaning of 35 U.S.C. 251, and the broader scope of claim subject matter surrendered in the application for the patent cannot be recaptured by the filing of the present reissue application.

Under the exact analysis above concerning the statement of "error" made in the declaration, it is clear that the addition of language referring to the "transverse curvature" of both the "flexible valve element" and the "respective sealing surface that contacts the cantilevered flexible flap at its root end" was relied on during prosecution of the original application for allowability. Accordingly, claims in this reissue application that now omit limitations added and/or argued to overcome the prior art rejection in the original prosecution are barred by the recapture rule. A thorough review of the above noted claims reveals that these claims now do not include language germane to the transverse curvature of the respective sealing surface that contacts the flap root end. It is well understood that, under current procedures, applicant may broaden the claim language germane to the allowed and/or argued feature of the patented claims. However, applicant is barred by the recapture rule from removing all language germane to the allowed and/or argued features.

### ***Response to Argument***

In response to the above concerning Recapture, applicant notes further well known Court precedent relating to Reissue and argues that:

"A comparison of the present claims to the claims surrendered during the original prosecution reveals that each of the claims that are now being rejected do indeed recite additional limitations germane to the prior art rejections, thereby avoiding recapture. For example, independent claim 41 states that the flexible flap is 'non-centrally mounted to the valve seat' and that the flap has 'maximum transverse curvature at the location where the flap is mounted to the valve seat'"



and points out the further limitations of the further rejected claims as avoiding recapture in that the above limitations and further noted limitations are germane to a prior art rejection on the original application.

The recitation in claim 41 for example, of "maximum transverse curvature at the location where the flap is mounted to the valve seat" may be implied by the fact that the seat surfaces are also curved in the transverse direction. This recitation is also covered by the other embodiment disclosed in the Patent in which the valve flap is originally constructed to have this transverse curvature. In this embodiment, the transverse curvature is not imparted to the valve flap by its mounting on the transversely curved valve seating surface. Consequently, the scope of the claim language covers an embodiment outside of and not germane to the language relied on for allowability relating to the transverse curvature being imparted to the valve flap by its mounting upon transversely curved seating surfaces.

Additionally applicant argues that limitations relating to the transverse curvature of the sealing surfaces were "not germane to a prior art rejection" by reason that no arguments were presented concerning the transverse curvature of the sealing surfaces during prosecution.

On review of the prosecution history of the application, as noted above, this argument is unpersuasive.

The application prosecution history clearly reflects that, in response to a Final rejection of claims, applicant submitted by facsimile dated May 20, 1997, a proposed Draft of then claim 12, which did not include language directed to the transverse

curvature of the sealing surfaces. Two days later, on May 22, 1997 a second facsimile of Draft claim 12 was submitted that did include language directed to the transverse curvature of the sealing surfaces. This second Draft apparently was agreed upon in that, in a formal amendment dated June 12, 1997 in an effort to overcome prior art applied in the final rejection dated April 29, 1997, and further modifying the first Draft version of claim 12, applicant specifically amended then claim 12 by the specific addition of language directed to the transverse curvature of the sealing surfaces. After further modification of claim 12 in an amendment dated June 25, 2007, claim 12 matured into claim 1 of the Patent sought to be Reissued. Clearly the prosecution history of the application of the Patent sought to be Reissued indicates that language relating to the transverse curvature of the sealing surfaces was specifically relied on to overcome a rejection on prior art.

***New Matter***

Claims 47, 49-54, 70, 72-96, 100-104, 108-120 and 122-129 rejected under 35 U.S.C. 251 as being based upon new matter added to the patent for which reissue is sought. The added material which is not supported by the prior patent is as follows:

In claim 47, lines 14-16 recite "the stationary portion of the flexible flap being held in a stationary position in contact with a portion of the seal ridge such that the stationary segment of the peripheral edge remains stationary during exhalation". Lines 21-23 then recite "the mounting of the flap causing the stationary portion of the flap to be pressed towards the seal ridge such that at least a portion of the stationary portion resides in non-alignment with the seal surface when viewing the valve in a longitudinal section".

Since the entire "stationary portion (is)... held... in contact with... the seal ridge" it is not understood how the mounting of the flap in a manner which presses the flap "towards the seal ridge (causes) a portion of the stationary portion (to) reside in non-alignment with the seal surface" as recited in the claim. As there is no basis for this limitation in the original patent this is considered to be new matter.

In claim 70, lines 14-20 recite "the transverse curvature being imparted to the flexible flap by the mounting of the flexible flap at the stationary portion off-center relative to the flap and closer to the stationary segment of the flap's peripheral edge than to the free segment; the mounting of the flexible flap at the stationary portion being accomplished by having a member from the valve cover press against the flap to create sufficient curvature in the flap at a point where the member contacts the flap to cause at least part of the stationary portion to reside in non-alignment with the seal surface when viewing the flap in a longitudinal section".

Firstly, as disclosed at column 3, lines 15-30 of the original patent, a profiled block 15 and opposing seal ridge 9A are curved "to impart to the flap a transversely arched configuration". As both the block 15 and ridge 9A span the width of the flap it is not seen how one mounts the flap "at the stationary portion off-center relative to the flap..." as the surface of element 15 and seal ridge 9A extend from side to side of the flap passing the center line of the flap. Secondly, as alluded to regarding claim 47, it is not understood how the mounting of the flap causes "at least part of the stationary portion (to) reside in non-alignment with the seal surface" as recited in the claim. As

there is no basis for this limitation in the original patent this is considered to be new matter.

Regarding claim 81, in repeating lines 14-15 of claim 70, as both the block 15 and ridge 9A span the width of the flap it is not seen how one mounts the flap "at the stationary portion off-center relative to the flap" as the surface of element 15 and seal ridge 9A extend from side to side of the flap passing the center line of the flap.

In claim 86, lines 15-16 recite "...to cause the flexible flap to exhibit a curvature at least in a direction transverse to the longitudinal axis ...". The phrase "at least" enlarges the scope of the claim to include curvature in directions not transverse to the longitudinal axis such as along askew angles from the longitudinal axis which is outside the scope of the original patent. As there is no basis for this limitation in the original patent this is considered to be new matter.

In claim 87, line 3 recites "the profiled block engages the flap at a non-central location of the flap in a non-aligned relationship to the sealing surfaces". Relative to claim 86, from which claim 87 depends, the "profiled block" recited in claim 86 reads only on the disclosed "block" 15 which presses "the flap towards the valve seat to cause the flexible flap to exhibit a curvature" as recited in claim 86. In claim 87 however, this same recited "profiled block engages the flap at a non-central location of the flap in a non-aligned relationship to the sealing surfaces". Since the block 15 spans the width of the flap from side to side it is not seen how this block engages at a "non central location". Additionally, the only "block that engages the flap in a "non-aligned relationship to the sealing surfaces" is block 16 which does not create the arched

configuration but rather accentuates the configuration already imparted by the block 15 and seal ridge 9A. As there is no basis for this limitation in the original patent this is considered to be new matter.

In claim 89, lines 20-24 recite "the fixed curvature being accomplished by exerting a force on the flexible flap to move the flap towards the valve seat such that the flap, at the location where the force is exerted, is non-aligned with the seal surface, the exerted force and the non-aligned relationship between the seal surface and the flap at the location of the force, imparting the curvature and biasing the flap...". Firstly, the only element which exerts a force to move the flap towards the seat such that at the location of the exerted force the flap is "non-aligned" with the seal surface is block 16. Block 16 does not accomplish the curvature, it accentuates the curvature already imparted by block 15 and seal ridge 9A. Secondly, the "exerted force and the non-aligned relationship" does not "impart the curvature". As disclosed at column 3, lines 15-30 of the original patent, profiled block 15 and seal ridge 9A "impart" the curvature. As there is no basis for this limitation in the original patent this is considered to be new matter.

In claim 90, the recitations requiring the "profiled block (16 of the valve cover) engaging the flap so as to create the force needed to impart an arched curvature" in view of the original patent at column 3, lines 15-30 is clearly incorrect. As there is no basis for this limitation in the original patent this is considered to be new matter.

In claim 91, lines 1-3 recite "the profiled block (of claim 90 and thus block 16) engages the flap at a non-central location of the flap in a non-aligned relationship to the

sealing surfaces to create an arched configuration transversely to the longitudinal axis". The only "profiled block" that engages the flap... in a non-aligned relationship to the sealing surfaces" is disclosed profiled block 16. This block 16 however is not used to "create" the arched configuration as recited. As noted above the transversely arched configurations are imparted to the flap by the opposed elements 15 and 9A. Block 16 is disclosed as "accentuating" not creating, the arched configurations. As there is no basis for this limitation in the original patent this is considered to be new matter.

In claim 92, lines 19-23 recite "the fixed curvature being accomplished by exerting a force on the flexible flap to move the flap towards the valve seat such that the flap, at the location where the force is exerted, is non-aligned with the seal surface, the exerted force and the non-aligned relationship between the seal surface and the flap at the location of the force, imparting the curvature". Similar to that noted above regarding claim 91, the only element that would apply a force to the flap, at a location "non-aligned with the seal surface" is block 16 which is used to accentuate the arched configuration already imparted to the flap by the opposed surfaces of block 15 and seal ridge 9A. As there is no basis for this limitation in the original patent this is considered to be new matter.

In claim 93, the recitations requiring the "profiled block (16 of the valve cover) engaging the flap so as to create the force needed to impart an arched curvature" in view of the original patent at column 3, lines 15-30 is clearly incorrect. As there is no basis for this limitation in the original patent this is considered to be new matter.

In claim 95, lines 20-21 recite "the applied force moving the flap upstream at the applied position and thus imparting the curvature". The only element that applies a force

to move the flap in an upstream direction is block 16 which does not "impart curvature" but rather, as disclosed, accentuates the curvature imparted by the opposed elements 15 and 9A.

Additionally, lines 24-28 recite "a valve cover having a block for mounting the flap in contact with the sealing surfaces; wherein the block exerts the force in the upstream direction and wherein the transverse curvature in the flap includes a fixed transverse curvature in the flap in said root end at a location of said root end located between the block and the portion of the of the root end that contacts the sealing surface". This appears to repeat the recited "fixed curvature" of line 17. As there is no basis for these limitations in the original patent this is considered to be new matter.

In claim 104, lines 18-24 recite "the fixed curvature resulting from a force being applied to said flap in an upstream direction at a position proximate the root end and between the peripheral side edges, the applied force moving the flap upstream at the applied position and thus imparting the curvature." The only element which applies a force to move the flap upstream at the applied force position is block 16 which does not impart the curvature. Rather, as disclosed at column 3, lines 15-30 of the original patent, the curvature is imparted by the opposing elements 15 and 9A. Additionally, lines 29-33 appear to repeat the "fixed curvature" of lines 17. As there is no basis for these limitations in the original patent this is considered to be new matter.

In claim 111, lines 19-22 recite "the fixed curvature resulting from a force being applied to said flap at a position within the supported end and between the peripheral side edges, the applied force moving the flap upstream at the position and thus imparting

the curvature". The only element which applies a force to move the flap upstream at the applied force position is block 16 which does not impart the curvature. Rather, as disclosed at column 3, lines 15-30 of the original patent, the curvature is imparted by the opposing elements 15 and 9A. As there is no basis for these limitations in the original patent this is considered to be new matter.

In claim 120, lines 23-26 recite "a block that exerts a force in the upstream direction to the flap's downstream surface at a position within the supported end and between the peripheral side edges, the applied force moving the flap upstream at the exerted position and thus imparting the curvature". The only "block" that moves the flap upstream is block 16 which does not "impart the curvature". Rather, as disclosed at column 3, lines 15-30 of the original patent, the curvature is imparted by the opposing elements 15 and 9A. As there is no basis for these limitations in the original patent this is considered to be new matter.

In claim 122, lines 18-19 recite "the flexible flap is mounted on the valve seat non-centrally relative to the valve seat orifice". Since the mounting elements at block 15 and seal ridge 9A span the width of the flap, which flap passes center lines of the seat orifice, it is not seen as to how the flap is mounted "off center" as recited. Additionally, lines 2-21 recite "which curvature extends at least transversely to the longitudinal dimension". The inclusion of the phrase "at least" enlarges the scope of the claim to include curvature in directions not transverse to the longitudinal axis such as along askew angles from the longitudinal axis which is outside the scope of the original patent.



As there is no basis for these limitations in the original patent this is considered to be new matter.

The remaining claims are included due to dependency.

### ***Response to Arguments***

#### **Claims 47 and 49-54**

In response to the above, applicant argues that:

“An exemplary portion of the stationary portion of the flap that is ‘in non-alignment with the seal surface’ is depicted in connection with the embodiment of the invention described therein can be found in the portion of the flap 7 that is acted on by the profiled block 16 (see, e.g., Figure 4).”

It is agreed that the “portion” of the valve flap that is “in non-alignment with the seal surface” is represented by the “portion” of the valve flap acted upon by the profiled block 16. This is the cause of the rejection. As noted above, the claims require “the stationary portion” (read as the entirety of “the stationary portion”) to be “held in a stationary positioning contact with a portion of the seal ridge”. The claims further require “a portion of the stationary portion (residing) in non-alignment”. Viewing figure 4 of the Patent, this “stationary portion” is that portion of the valve flap 8 clamped between seal ridges 15 and 9a. The “portion” acted upon by profiled block 16 is to the left, in fig. 4, of this “stationary portion” and is thus not a “portion” of the “stationary portion” as required by the claim.

#### **Claims 70 and 72-85.**

Firstly, applicant argues that the Examiners interpretation of “off center” is too narrow and does not support the rejection under new matter because as shown in fig. 4

of the Patent the mounting of the flap is off center relative to the flap because the mounting area is closer to one end of the flap than the other end of the flap. This is unpersuasive as the seal ridges 15 and 9A pass through a center line of the flap and is thus on center.

Secondly, applicant argues that:

“An exemplary portion of the stationary portion of the flap that is ‘in non-alignment with the seal surface’ is depicted in connection with the embodiment of the invention described therein can be found in the portion of the flap 7 that is acted on by the profiled block 16 (see, e.g., Figure 4).”

It is agreed that the “portion” of the valve flap that is “in non-alignment with the seal surface” is represented by the “portion” of the valve flap acted upon by the profiled block 16. This is the cause of the rejection. The claims require “at least a part of the stationary portion (residing) in non-alignment”. Viewing figure 4 of the Patent, this “stationary portion” is that portion of the valve flap 8 clamped between seal ridges 15 and 9a. The “portion” acted upon by profiled block 16 is to the left, in fig. 4, of this “stationary portion” and is thus not a “portion” of the “stationary portion” as required by the claim.

#### **Claim 81**

Applicant argues that the Examiners interpretation of “off center” is too narrow and does not support the rejection under new matter because as shown in fig. 4 of the Patent the mounting of the flap is off center relative to the flap because the mounting area is closer to one end of the flap than the other end of the flap. This is unpersuasive as the seal ridges 15 and 9A pass through a center line of the flap and is thus on center.

**Claims 86-88**

Applicant argues in connection with the recitation "at least", that the disclosure of the valve flap having optional longitudinal curvature, relying on the Patent at column 3, line 62 to column 4, line 7, provides support for the claimed "curvature at least in a direction transverse...".

This argument is unpersuasive. The recitation "at least" is considered open ended unless explicitly defined in the disclosure of the Patent. It is agreed that applicant is not required to use the exact same words as used in the description of the invention. However, applicant cannot enlarge the scope of the claim to include embodiments not covered by the scope of the disclosure in the Patent. The portion of the Patent relied on noted above, discusses the transverse curvature of the flap, maximum at the root end at seal ridge 9A, decreasing towards the free end at 9C because of the straight but inclined side portion 9B. The "degree of longitudinal curvature" is imparted to the flap not because of the seal ridge 9a but because of the incline of the side edges 9b. Further disclosure notes that the seal ridge 9c may also include transverse curvature such that the transverse curvature extends throughout the length of the flap. But this is not what is covered by the claim language at issue.

The claim language at issue recites "a valve cover that has a profiled block that engages the flexible flap at the stationary portion to press the flap towards the valve seat to cause the flexible flap to exhibit a curvature at least in a direction transverse to the longitudinal axis". As disclosed in the Patent, the only profiled block that engages the flexible flap at the stationary portion to press the flap towards the valve seat" is that

"block 15". That "block 15" imparts curvature to the flap in the transverse direction only. The "block 15" does not impart longitudinal curvature to the flap.

Further, pertaining to applicants argument that use of the term "comprising" would also imply further rejections as specifications in general fail to support the infinite variations that could be added as encompassed by the scope of the term, this argument is also unpersuasive in that the term "comprising" is interpreted as defining "the scope of a claim with respect to what unrecited additional components or steps, if any, are excluded from the scope of the claim" M.P.E.P. § 2111.03.

The recitation "at least" in the context used in the claims in this instance enlarges the scope of the claim to cover the imposition of transverse curvature to the valve flap along directions other than transverse to the longitudinal axis for which there is no support in the Patent.

#### **Claim 87**

Applicant argues that the disclosure of two different "profiled blocks" provide support for the invention as claimed in claim 87. This argument is unpersuasive.

Claim 86, from which claim 87 depends, recites "a valve cover that has a profiled block that engages the flexible flap at the stationary portion to press the flap towards the valve seat to cause the flexible flap to exhibit a curvature at least in a direction transverse to the longitudinal axis". Based on the disclosure in the Patent at column 3, lines 15-43, the only "profiled block that engages the flexible flap at the stationary portion to press the flap towards the valve seat to cause the flexible flap to exhibit a curvature at least in a direction transverse to the longitudinal axis" is profiled block 15

pressing the flap 8 towards the seal ridge 9A. "Profiled block" 16 is disclosed as accentuating the curvature already imparted by block 15 and ridge 9A. Claim 87 recites "the profiled block engages the flap at a non-central location of the flap in a non-aligned relationship to the sealing surface to create an arched configuration transversely to the longitudinal axis". The only "block" that engages the flap "in a non-aligned relationship to the sealing surfaces" 9A is block 16. "Profiled block 16" does not "create" the curvature it "accentuates" the curvature already in the flap and imparted thereto by the "block" and "valve seat" as recited in claim 87.

Applicants further argument that the Examiners interpretation of "off center" is too narrow and does not support the rejection under new matter because as shown in fig. 4 of the Patent the mounting of the flap is off center relative to the flap because the mounting area is closer to one end of the flap than the other end of the flap. This is unpersuasive as the seal ridges 15 and 9A pass through a center line of the flap and is thus on center.

Applicant further argues that the Examiners reliance on the description of the preferred embodiment as opposed to the broader description in the Summary section of the Patent, which merely notes that the flap has transverse curvature without any indication of how the transverse curvature is provided, is improper. This argument is unpersuasive. Applicants claim terms are interpreted in light of the specification. To rely on a portion of the specification which does not provide a detailed explanation of the terms used for guidance in determining the scope of the claim terms would be of no assistance in making such a determination.

**Claims 89-96, 100-104, 106-120 and 122-129**

Applicant argues that the assertion by the Examiner that block 16 alone does not impart curvature to the flap is improper in that the Patent, in the Summary section describes transverse curvature of the flap without any indication of how the transverse curvature is obtained. This disclosure, i.e. the description of transverse curvature of the flap without any indication of how the transverse curvature is obtained is argued as support for the claim limitations that now require block 16 to be the sole provider of the transverse curvature.

This argument is unpersuasive. Based on the disclosure in the Patent at column 3, lines 15-43, "profiled block 16" is disclosed as accentuating the curvature already imparted by block 15 and ridge 9A. Claim 89 recites "the fixed curvature being accomplished by exerting a force on the flexible flap to move the flap towards the valve seat such that the flap, at the location where the force is exerted, is non-aligned with the seal surface, the exerted force and the non-aligned relationship between the seal surface and the flap at the location of the force". The only element which exerts a force to move the flap towards the seat such that at the location of the exerted force the flap is "non-aligned" with the seal surface is block 16. As disclosed at column 3, lines 15-30 of the original patent, profiled block 15 and seal ridge 9A "impart" the curvature to the flap.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 41, 43, 44, 64, 66 and 67 are rejected under 35 U.S.C. §102 (b) as being anticipated by Cover (U. S. Pat. No. 2,105,183).

Regarding claim 41, the patent to Cover ('183) discloses a "filter face mask comprising: a mask body (11) adapted to fit over a nose and a mouth of a wearer (in the device of Cover ('183), although not explicitly illustrated in the figures, the mask 11 is considered to be positionable over the nose and mouth of the wearer since Pat. No. 2,105,183 is disclosed as being an improvement over a previous application, Serial No. 722,619 which matured into U.S. Pat. No. 2,112,270 of record which fully discloses that the mask 11 would be located over the nose and mouth of the wearer); and an exhalation valve (figures 3, 5 and 6) mounted to the mask body; the exhalation valve comprising a flexible flap (23) and a valve seat (surface of plate 17) that surrounds a valve orifice (either one of orifices 18); the flexible flap (23) being non-centrally mounted to the valve seat (at 17) relative to the orifice (at 18) and in cantilever fashion (the valve element 23 is mounted by attaching the mid portion at holes 24 of the valve to the plate 17 at holes 20 by pins 21. As such this mounting arrangement forms a hinge area at the mid point of the valve element thus effectively forming two "cantilever" type valve elements either one of which is readable on the "flap" recited herein) for movement between open and closed positions; the flexible flap (23) having a longitudinal dimension (extending from the hinge area where the "flap" is fixed to either of the "free" extremities) and a free end that rests upon the valve seat (17) when in closed position;

the flexible flap (23) also having a transverse curvature in a direction transverse to the flap's longitudinal dimension (as exemplified by the concavity exhibited in figure 2, extending along the plane of the hinge area); the transverse curvature biasing the flexible flap to effect positioning and retention of the flexible flap in the closed position in the absence of an opening pressure differential across the flap for any orientation of the valve (as disclosed at page 2, lines 8-52 of Cover ('183)) wherein the flexible flap has maximum transverse curvature at the location where the flexible flap is mounted to the valve seat" as recited.

Regarding claim 43, in Cover ('183), the transverse curvature of the flexible flap (either one of the "flaps") progressively decreases toward the free end of the flexible flap" from the maximum at the hinge area given that the surface 17 is concave. At locations approaching the rim of the concavity the curvature will decrease to eventually meet with the plate rim.

Regarding claim 44, in Cover ('183), "the transverse curvature is imparted to the flexible flap by virtue of its mounting to the valve seat" by reason that the flap is pressed to the concave seat surface.

Regarding claim 46, in Cover ('183), "the exhalation valve is so located on the mask such that during normal head movements of a wearer, the free end of the (lower) flexible flap (of the two) is generally directed downward" as recited.



Regarding claim 64, the patent to Cover ('183) discloses a "filter face mask that comprises: (a) a mask body (11) adapted to fit over a nose and a mouth of a wearer (in the device of Cover ('183), although not explicitly illustrated in the figures, the mask 11 is considered to be positionable over the nose and mouth of the wearer since Pat. No. 2,105,183 is disclosed as being an improvement over a previous application, Serial No. 722,619, which matured into U.S. Pat. No. 2,112,270 of record which fully discloses that the mask 11 would be located over the nose and mouth of the wearer); and (b) an exhalation valve (figures 3, 5, and 6) mounted to the mask body, the exhalation valve comprising a flexible flap (23) and a valve seat (surface of plate 17), and a valve orifice (either one of orifices 18), the flexible flap (23) being non-centrally mounted to the valve seat (at 17) relative to the orifice (18) in cantilever fashion (the valve element 23 is mounted by attaching the mid portion at holes 24 of the valve to the plate 17 at holes 20 by pins 21. As such this mounting arrangement forms a hinge area at the mid point of the valve element thus effectively forming two valve elements either one of which is read as the claimed "flap") such that it has a longitudinal dimension (extending from the hinge area to the "free" extremity), (either one of the) the flexible flap having a free end (opposite the hinge area) that rests upon the valve seat (e.g. the mating surface of plate 17) when closed, the flexible flap exhibits a curvature in a direction transverse to the flexible flap's longitudinal dimension (as exemplified by the concavity exhibited in figure 2, extending along the plane of the hinge area), the transverse curvature biasing the flexible flap to assist in closing the valve in the absence of an opening pressure differential across the flexible flap, under any orientation of the valve (as disclosed at

page 2, lines 8-52 of Cover ('183)), wherein the flexible flap has a transverse curvature at the location where the flexible flap is mounted to the valve seat" as recited.

Regarding claim 66, in Cover ('183), the transverse curvature of the flexible flap progressively decreases toward the free end of the flexible flap" from the maximum at the hinge area given that the surface 17 is concave. At locations approaching the rim of the concavity the curvature will decrease to eventually meet with the plate rim.

Regarding claim 67, in Cover ('183), "the transverse curvature is imparted to the flexible flap (23) by virtue of its mounting to the valve seat" as recited.

Regarding claim 69, in Cover ('183), "the exhalation valve is so located on the mask such that during normal head movements of a wearer, the free end of the (lower) flexible flap (of the two) is generally directed downward" as recited.

### ***Response to Argument***

Applicant argues that the claims at issue recite the flap "is 'non-centrally mounted to the valve seat relative to the valve orifice and in a cantilever fashion'" which is not readable in Cover ('183) because the single valve flap of Cover ('183) is mounted by "centrally located" pins.

As disclosed in Cover ('183) the single flap 23 is mounted to the valve seat by pins 21. However, this argument does not take into consideration the embodiments read by the Examiner. As explained above, the valve element 23 is mounted by attaching the mid portion at holes 24 of the valve to the plate 17 at holes 20 by pins 21.

As such this mounting arrangement forms a hinge area at the mid point of the valve element 23 thus effectively forming two valve elements, on opposite sides of the hinge, either one of which is read as the claimed "non-centrally mounted, cantilevered flap".

Applicant further argues that Cover ('183) fails to include features exhibiting "maximum transverse curvature at the location where the flap is mounted to the valve seat". In Cover ('183), maximum transverse curvature is imparted to the flap at the location of the deepest portion of the concave surface of seat 17. The deepest portion of the concave seat surface occurs at the central location of the concave surface. This occurs at the hinge area along the plane including the pins 20. From this lowers location the surface 17 rises, in a curved manner to the rim at the frame 15. Compare for example figures 1 and 2 which are views of the cross section of the valve along the plane of the hinge area at ins 20 (fig. 1) and perpendicular to the hinge area (fig.2). Each of the figures 1 and 2 shown the seating surface 17 to be concave. Moreover, at page 1, right column, line 30 explicitly states that "base plate 17... is concave as will be clear from Figs. 1, 2, and 4."

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Rivell whose telephone number is (571) 272-4918. The examiner can normally be reached on Mon.-Fri. from 6:00am-2:30pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Huson can be reached on (571) 272-4887. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
**John Rivell**  
**Primary Examiner**  
**Art Unit 3753**

j.r.